STATE OF WASHINGTON
DEPARTMENT OF ECOLOGY
REPORT OF EXAMINATION
WRTS File No. S2-30437

[X] Surface Water (Issued in accordance with the provisions of Chapter 117, Laws of Washington for 1917, and amendments thereto, and the rules and regulations of the Department of Ecology.)

Ground Water (Issued in accordance with the provisions of Chapter 263, Laws of Washington for 1945, and amendments thereto, and the rules and regulations of the Department of Ecology.)

PRIORITY DATE	APPLICATION NUMBER	PERMIT NUMBER	CERTIFICATE NUMBER
October 11, 2007	S2-30437		

NAME

Pleasant Harbor Marina and Golf Resort

ADDRESS (STREET)	CITY	STATE	ZIP CODE
308913 US Highway 101	Brinnon	WA	98320

PUBLIC WATERS TO BE APPROPRIATED

SOURCE

Rainwater and Stormwater Stored in Kettle B

TRIBUTARY OF (IF SURFACE WATERS)

Hood Canal

MAXIMUM CUBIC FEET PER SECOND	MAXIMUM GALLONS PER MINUTE	MAXIMUM ACRE FEET PER YEAR
0.67	(300)	133

QUANTITY, TYPE OF USE, PERIOD OF USE

105 acre-feet/year	Irrigation of 61 acres	April 1 to September 30th
28 acre-feet/year	Irrigation (120 acre Fire Smart Program)	April 1 to September 30th

LOCATION OF DIVERSION/WITHDRAWAL

APPROXIMATE LOCATION OF DIVERSION—WITHDRAWAL

Pump Station to be located at: 48' West and 915' North of the South Quarter Corner of Section 15, T. 25 N., R. 2 W., W.M.

SMALLEST SUBDIVISION	SECTION	TOWNSHIP N.	RANGE, (E. OR W.) W.M.	W.R.I.A.	COUNTY
SW ¼	15	25 N	2 W.W.M.	16	Jefferson

POINT OF WITHDRAWAL NAME	PARCEL NUMBER	LATITUDE	LONGITUDE	DATUM
		244,885	1,156,935	

RECORDED PLATTED PROPERTY

LOT	BLOCK	OF (GIVE NAME OF PLAT OR ADDITION)

LEGAL DESCRIPTION OF PROPERTY ON WHICH WATER IS TO BE USED

PLEASANT HARBOR MARINA & GOLF RESORT located in JEFFERSON COUNTY, WASHINGTON all within portions of SECTIONS 15 and 22, both in TOWNSHIP 25 NORTH, RANGE 2 WEST, W.M. AND GOVERNMENT LOT 7 OF SAID SECTION 15, AND GOVERNMENT LOTS 2 AND 3 OF SAID SECTION 22;

Including:

LOTS 1, 2 and 3 OF WATERTOUCH SHORT PLAT, AS RECORDED IN VOLUME 2 OF SHORT PLATS, PAGES 205 AND 206, RECORDS OF JEFFERSON COUNTY, WASHINGTON, BEING A PORTION OF SECTION 15, TOWNSHIP 25 NORTH, RANGE 2 WEST, W.M., JEFFERSON COUNTY, WASHINGTON, and

LOTS 1 and 2 of PLEASANT HARBOR MARINA SHORT PLAT, AS PER PLAT RECORDED IN VOLUME 2 OF SHORT PLATS, PAGES 221 TO 223 AND AMENDED IN VOLUME 3 OF SHORT PLATS, PAGES 8 TO 10, RECORDS OF JEFFERSON COUNTY, WASHINGTON.

A complete legal description of the project's boundaries is located in the file

DESCRIPTION OF PROPOSED WORKS

Irrigation pumping station equipped to produce 300 gpm installed at Kettle B

DEVELOPMENT SCHEDULE

BEGIN PROJECT BY THIS DATE:	COMPLETE PROJECT BY THIS DATE:	WATER PUT TO FULL USE BY THIS DATE:
July 1, 2011	July 1, 2018	July 1, 2025

PROVISIONS

Metering and Reporting Diversions

1. An approved measuring device shall be installed and maintained for the Kettle B pumping station, in accordance with the rule "Requirements for Measuring and Reporting Water Use", WAC 173-173.

2. Water use data shall be recorded weekly and maintained by the project owner for a minimum of five years. The maximum monthly rate of withdrawal and the monthly total volume shall be submitted to the Department of Ecology by February 28 of each calendar year.
3. Reported water use data may be submitted via the Internet. To set up an Internet reporting account, access https://fortress.wa.gov/ecy/wrx/wrx/Meteringx/. If you do not have Internet access, contact the Southwest Region Office for forms to submit your data.

4. Chapter 173-173 WAC describes the requirements for data accuracy, device installation and operation, and information reporting. It also allows a water user to petition Ecology for modifications to some of the requirements. Installation, operation, and maintenance requirements are enclosed as a document entitled "Water Measurement Device Installation and Operation Requirements."

5. Department of Ecology personnel, upon presentation of proper credentials, shall have access at reasonable times, to the records of water use that are kept to meet the above conditions and may inspect, at reasonable times, any measuring device used to meet the above conditions.

Development Schedule

1. The development schedule shall be as follows:

    - Construction shall begin by July 1, 2011
    - Construction shall be completed by July 1, 2018.
    - Proof of Appropriation shall be filed by July 1, 2025.

FINDINGS OF FACTS AND ORDER

The issuance of this permit in no way authorizes or grants any other permit required of the applicant, including authorizations that may be required from the Department of Ecology Water Quality Program and the Department of Health regarding stormwater management and reclaimed water.

Upon reviewing the investigator's report, I find all facts, relevant and material to the subject application, have been thoroughly investigated. Furthermore, I find water is available for appropriation and the appropriation as recommended is a beneficial use and will not be detrimental to existing rights or the public welfare.

Therefore, I ORDER that a permit be issued under Surface Water Application Number S2-30437, subject to existing rights and indicated provisions, to allow appropriation of public surface water for the amount and uses specified in this report.

You have a right to appeal this ORDER. To appeal this you must:

- File your appeal with the Pollution Control Hearings Board within 30 days of the "date of receipt" of this document. Filing means actual receipt by the Board during regular office hours
- Serve your appeal on the Department of Ecology within 30 days of the "date of receipt" of this document. Service may be accomplished by any of the procedures identified in WAC 371-08-305(10). "Date of receipt" is defined at RCW 43.21B.001 (2).

Be sure to do the following:

- Include a copy of this document that you are appealing with your *Notice of Appeal*.
- Serve and file your appeal in paper form; electronic copies are not accepted.

1. File your appeal with the Pollution Control Hearings Board

Mail appeal to:

The Pollution Control Hearings Board
PO Box 40903
Olympia, WA 98504-0903

OR

Deliver your appeal in person to:

The Pollution Control Hearings Board
4224 – 6th Ave SE Rowe Six, Bldg 2
Lacey, WA 98503

2. Serve your appeal to the Department of Ecology

Mail appeal to:

The Department of Ecology
Appeals Coordinator
PO Box 47608
Olympia, WA 98504-7608

OR

Deliver your appeal in person to:

The Department of Ecology
Appeals Coordinator
300 Desmond Dr SE
Lacey, WA 98503

3. Send a copy of your appeal to:

Thomas Loranger
Department of Ecology
Southwest Regional Office
PO Box 47775
Olympia WA 98504-7775

For additional information, visit the Environmental Hearings Office Website: http://www.eho.wa.gov . To find laws and agency rules visit the Washington State Legislature Website: http://www1.leg.wa.gov/CodeReviser .

Signed at Olympia, Washington, this 16th day of June 2010.

Thomas Loranger

Thomas Loranger, Section Manager
Water Resources Program
Southwest Regional Office

BACKGROUND

Description and Purpose

On October 11, 2007, Pleasant Harbor Marina and Golf Resort filed two Applications for Water Right Permit, the first to withdraw ground water at the maximum rates of 300 gpm for municipal supply and irrigation of 108 acres, and a second application to use water from a rainwater\stormwater collection system, also for municipal supply and irrigation of the same project. The applications were assigned application numbers G2-30436 and S2-30437 respectively.

The project site is the located on the Black Point Peninsula situated between the Dosewallips and Duckabush Rivers, on the east side of Hood Canal, in the Skokomish River Watershed Inventory Area (WRIA 16) in Sections 15 and 22 of T25N, R2W.

Based on the provisions of RCW 43.21A.690 and RCW 90.03.265, Pacific Groundwater Group (PGG) prepared this report under contract to Ecology. PGG reviewed all available documents pertaining to these applications, including site conditions, historical water use, existing rights, and seniority of pending applications that could potentially be affected by the application.. Final determinations of water availability were made by the Department of Ecology.

Under the provisions of RCW 90.03.290 a water right shall be issued upon findings that water is available for appropriation for a beneficial use, that the appropriation will not impair existing rights or be detrimental to the public welfare. In accordance with these provisions, I recommend issuance of Permit S2-30437.

Legal Requirements for Issuance of a Water Right Permit

- **Public Notice**

A public notice of the proposed appropriation was published in the Jefferson County Leader on December 17th and 24th, 2008. In response to the notice a protest letter was received by Mr. Gary Steele on behalf of the Brinnon Group, (Brinnon). These concerns are addressed within this Report of Examination in the section entitled Consideration of Protestant's Concerns.

- **SEPA**

While the Pleasant Harbor project's diversion of surface water is less than 1 cfs, which does not in itself trigger a SEPA review, a water right application is still subject to a SEPA threshold determination in situations where it is part of a larger proposal that is subject to SEPA for other reasons (e.g., the need to obtain other permits that are not exempt from SEPA).

The Statesman Group of Companies, LTD, and Black Point Properties, LLC, submitted an application with Jefferson County for a Master Planned Resort (MPR) in the Black Point area. This project required an amendment to the County's Comprehensive Plan, and thus this application is part of larger SEPA process.

The County, acting as lead agency, determined that this proposal was likely to have significant adverse environmental impacts, and required that an Environmental Impact Statement (EIS) be prepared.

The Final Environmental Impact Statement for the proposed Brinnon Master Planned Resort was issued by the Jefferson County SEPA-responsible official on November 27, 2007, and a final decision was made on January 14, 2008.

Water Resources Statute and Case Law

Laws governing the water right permitting process are contained in RCW 90.03.250 through 90.03.340. In accordance with RCW 90.03.290, favorable determinations must be made on the following four criteria in order for an application for a water right to be approved:

- Water must be available.
- There must be no impairment of existing rights.
- The water use must be beneficial.
- The water use must not be detrimental to the public interest.

INVESTIGATION

Evaluation of this application included, but was not limited to, research and/or review of the following:

- Department of Ecology records of surface and ground water rights and claims, and well construction reports within the vicinity of the proposed project site.
- Documents and reports applicable to the area, as referenced in the conclusions of this report.
- A field visit conducted by Peter Schwartzman of Pacific Groundwater Group and John Pearch of Ecology on May 7th, 2009.
- Chapters 90.03, and 90.54 Revised Code of Washington

LOCATION OF PROJECT SITE

The Pleasant Harbor development is situated adjacent to Hood Canal, two miles south of Brinnon, on the Black Point Peninsula. The peninsula has an area of about 710 acres, and is surrounded on three sides (north, south and east) by the waters of the Hood Canal. The north side of the Peninsula is also bounded by Pleasant Harbor, an inlet connected to the Hood Canal via a narrow channel. The western edge of Black Point Peninsula is defined by US Highway 101, beyond which occur the foothills of the eastern Olympic mountain range.

The property contains stands of predominantly coniferous forests, interspersed with open meadow areas that were logged approximately 40 years ago by previous owners. The property is characterized by terraced areas separated by steep "kettle" formations caused by receding glaciers.

The project site has been logged and was formerly the site of a 500-unit Thousand Trails (American Campground) seasonal campground for trailers and campers.

INTENT OF WATER RIGHT APPLICATION

The intent of these filings is to secure water rights for the proposed Pleasant Harbor Resort and Golf Club (Resort). The final plan for the Resort encompasses approximately 250 acres and includes the golf course resort area of approximately 220 acres and the marina resort area of approximately 26 acres. The development will be a Master Planned Resort that will include at the golf court resort area up to 890 residential units (802 townhouse style condo units and at the marina resort 88 residential units), 46,000 square-feet of commercial/retail/conference spaces, an 18-hole golf course, 11,500 square feet of commercial space and the existing 311-slip marina.

PROJECTED WATER USE

The water supply for this project will combine the use of an existing groundwater right, a new groundwater right, rainfall water harvesting, and treatment and reuse of wastewater. Groundwater wells will be the potable water supply source for the resort. Groundwater will also be used initially for irrigation; however, as surface-water collection facilities are constructed on the property, surface water will replace groundwater as a primary source for irrigation. The applicant is also pursuing plans for the development of reclaimed water for the irrigation program. As this water becomes available, groundwater and surface water use will be reduced by the available reclaimed water and as provided by the terms in the reclaimed water permit. Ultimately, at full resort buildout, reclaimed water could potentially supply the majority of the irrigation demand, thus reducing the overall use of groundwater and surface water.

The water supply approach for the project is to use multiple water supply sources – specifically groundwater; rainwater collected on rooftops and other impervious surfaces, and reclaimed water derived from treated waste water.

Climate plays an important role in the water balance for the resort and governs irrigation requirements, infiltration rates and evaporation from ponds. The site lies in southeastern Jefferson County adjacent to Hood Canal. Over 55 inches of precipitation fall in Quilcene, about 11 miles north of the site. The climate is marine with wet winter months and dry mild summer months.

While a formal weather station does not exist at Brinnon, measurements reported by a local source indicate that Brinnon is slightly wetter and receives an average of 59.50 inches of rainfall. This appears to be consistent with other minor fluctuations in reported rainfall between coastal stations. The differences in precipitation measured along the east side of the County occur primarily in the winter months. This means that during the winter the area receives more recharge, while the amount of summer rainfall remains fairly constant.

Because the majority of non-potable water will be needed during the dryer summer months when irrigation needs are the highest and natural precipitation is the lowest, adequate storage is a key component of this project.

The primary storage pond will be located in an existing topographic depression on the site referred to as Kettle B. This pond will initially be used to collect surface water (stormwater) run-off, but ultimately is intended to collect domestic and commercial water treated to Class A standards[1]. Surface water input for irrigation during construction and the first number of years of operation is particularly critical. However, as production of Class A reclaimed water increases towards full project buildout, most of the pond capacity will be occupied by reclaimed water. Overflow from the pond will be infiltrated through a series of infiltration galleries located beneath the fairways. The storage pond may also collect a limited amount of stormwater runoff.

This project has been designed so that no discharge of stormwater from the site is allowed to occur. This means that all stormwater needs to be stored and managed such that it is either infiltrated into the ground or stored for irrigation needs. Kettle B has a surface area of just over 8 acres, the pond is currently designed to hold 60 million gallons (184 af), however the applicant may increase storage capacity to 90 million gallons (276 af).

Once reclaimed water is generated at significant quantities, the majority of stormwater from roads and rooftops will be infiltrated to galleries located beneath the fairways and around the resort area. Rainwater collected on roofs is considered to be exempt from water right permitting as addressed in Ecology's POL-1017, while no specific exemption exists for stormwater run-off from roadways and parking surfaces. The applicant has elected to pursue a surface water permit for the full stored quantities.

Predevelopment recharge to the aquifer from precipitation is estimated to be about 739 ac-ft per year with no discernable runoff. (Water Supply and Groundwater Impacts Analysis, SDEIS Groundwater, Subsurface Group, December 17, 2008). The Subsurface Group calculations indicate that aquifer recharge will increase slightly after development. Once the development is largely completed and additional impervious surfaces have been added the recharge rate will increase slightly due to the removal of native vegetation and should reach a relatively constant 842 ac-ft per year with all irrigation storage overflow being infiltrated. The increase in recharge is due to the fact that some of water that normally would have been consumed by evaporation and evapotranspiration processes is now directly infiltrated. In addition, more water can now infiltrate due to changes in soil moisture associated with irrigation of the golf course.

As proposed by the applicant the site is self-contained with respect to water management, there was no significant run-off from the site pre-development nor will run-off occur after development. The only difference is what evaporates, and the net increase comes from the lack of residence time of precipitation on plants and ground surface, that is immediately passed to the groundwater system. The system takes advantage of seasonal weather patterns collecting and infiltrating most of the water in the winter. The only net water losses are evaporation from the pond and evaporation during irrigation.

Potable Water Demands

Potable water needs will be met from groundwater sources, although it is currently envisioned that reclaimed water will be used for some of the non-potable domestic demands such as toilet flushing. Residential demand has been calculated to be 121 acre-feet per year, and is based on 175 gallons per day per connection and prorated to reflect seasonal water demands. **See ROE G2-30436 for an assessment of potable water needs.**

Irrigation (non-potable) Water Demand

The irrigation program includes irrigation of the golf course, and a "Fire Smart" program intended to promote natural vegetation and reduce fire hazards in other areas.

Irrigation at the golf course will be applied to 61 acres with state-of-the-art equipment designed to minimize water use and promote efficiency. PGG estimated water demand at the golf course based on the Washington Irrigation Guide assuming turf grass grown in the vicinity of Quilcene with an irrigation efficiency of 85 percent, as summarized below:

[1] While not addressed in this permit, the applicant proposes to develop a reclaimed water component to this project. Under this proposal wastewater from the residential and commercial uses will be conveyed to onsite treatment facilities and be treated to Class A reuse standards. The reclaimed water will either be used for non-potable domestic needs or for irrigation and is regulated by the Departments of Health and Ecology under a reclaimed water permit.

Table 1. Irrigation Duty

Month	Crop Irrigation Requirement (in/mo)	Crop Irrigation Requirement (acre-ft)	Total Irrigation Requirement (acre-ft)
April	0.64	3.25	3.83
May	2.37	12.05	14.17
June	3.31	16.83	19.80
July	5.12	26.03	30.62
August	3.99	20.28	23.86
September	2.10	10.68	12.56
Total	17.53	89.11	104.84

In addition, the applicant has requested 28 af/yr to be applied to 120 acres under the Fire Smart program during the April-to-October growing season. The Fire Smart Program has been designed to promote native vegetation growth and reduce fire hazards. Native vegetation is primarily dormant in the summer months and a 20 percent evapo-transpiration factor has been allocated to wet them. Statesmen applied this rate to 120 acres of property that will not be developed by the proposal, and calculated a Fire Smart program demand of about 28 acre-feet per year. Total irrigation demand is therefore estimated to be 133 af/yr.

Assuming that water for the Fire Smart program is applied between July and September, PGG estimates that average monthly irrigation demand would approach the total requested Qi for the two water rights (300 gpm) during the maximum irrigation month (July). Because irrigation demand comprises a significant portion of the total requested Qi during the dry summer months, satisfying this demand will rely on storage of water during other portions of the year. Irrigation water will be stored in Kettle B located near the driving range. The kettle will be lined to form a storage pond, and should be capable of holding 60 million gallons of water – and the applicant is exploring options for increasing total storage capacity to 90 million gallons. (Note that the total irrigation demand of 133 af is equivalent to 43.3 million gallons.) Water will be pumped from the pond with a pressurized piping system to meet irrigation and fire flow needs.

Since the Washington State Cooperative Extension does not calculate irrigation demands for a Brinnon station, irrigation duty for this project are based on climatic conditions at the nearby Quilcene, 11 miles north of the Black Point Peninsula.

The crop irrigation requirements for the irrigation of pasture and turf amount to 17.54 inches per acre over an April to September irrigation season. The applicants will be installing a new, efficient irrigation system assumed to be at least 85% efficient.

- Using a Crop Irrigation Requirement (CIR) for pasture/turf, of 17.54 in/yr for the irrigation season, the CIR for 61 acres is (17.54 in/12 in/ft) * 61 acres = 89 ac-ft/yr.
- Application Efficiency (Ea) for pop-up sprinklers is approximately 85% efficient
- Estimated Total Irrigation Requirement (TIR) = 105 ac-ft/yr.

TOTAL WATER REQUIREMENT

Annual Quantities

The total water requirements for this project amount to 254 acre-feet per year. It should be noted that while the ground water right would authorize water for the full development of this project, it is the applicant's intent that domestic needs will be phased in as the resort builds out. Accordingly the groundwater permit may be used for both domestic supply AND irrigation of 61 acres, with the 133 acre feet of irrigation demand designated as a non-additive quantity to the right authorized by surface water permit S2-30437.

Instantaneous quantities

The irrigation system will be designed to operate at a rate of 300 gpm, or 0.67 cubic feet per second. For the purposes of permit issuance, the withdrawal capacity of the irrigation system will considered the Qi of this water right, as opposed to the rate of stormwater entering the storage pond. A pumping station positioned at Kettle B will pump water into the pressurized irrigation system.

EXISTING WATER RIGHTS ASSOCIATED WITH PROJECT SITE

There are currently 5 other water rights appurtenant to the same property. Two, ground water certificate G2-20465 and G2-24359 are associated directly with facilities that Statesmen will now operate. On paper these two rights amount to 28 acre-feet per year. Water right certificates G2-27964, G2-21134 and G2-23623 are associated with the Pleasant Tides Water Co-op which serves water for domestic supply on the Black Point Peninsula. While the Statesmen project is located partially within the service area of the Co-op and Pleasant

Tides could supply an additional 12.5 acre-feet, the parties have not reached an agreement and Statesmen has elected to pursue its own rights.

Table 2. Existing Water Rights Summary

File #	Person	Doc	Date	Use	Qi (gpm)	Qa (ac-ft)	TRS	QQ/Q
G2-20465C	American Campgrounds	Cert	8/29/1972	DM	55	25	25.0N 02.0W 15	SW/SE
G2-21134C	Black Point Water Co Inc	Cert	6/14/1973	DM	40	60	25.0N 02.0W 15	SW/NW
G2-23623C	Black Point Water Co Inc	Cert	1/20/1975	DM	45	60	25.0N 02.0W 15	SW/NW
G2-24359C	REILLY ROBERT E	Cert	12/13/1976	DM	60	3	25.0N 02.0W 15	
G2-27964	Pleasant Harbor Beach Tract	Pmt	12/24/1990	DM	215	25	25.0N 02.0W 15	

Ground water certificate G2-20465 issued to American Campgrounds is appurtenant to one of the production wells that will be used for the resort. The certificate authorizes the withdrawal of 55 gpm, and 25 acre-feet per year, based on the projected water demand of an 800 trailer RV park and other incidental water use. The facility was never metered it is unknown how much water was actually used. Since it has been a number of years since the campground was fully operational, the applicant has requested that this right not be considered as an available source of supply.

Ground water certificate G2-24359 was issued for the domestic demands of the existing Pleasant Harbor marina area, including a small commercial establishment and also water used at the marina. Without evidence to the contrary we assume that the full 3 acre-feet is a reasonable water duty.

HYDROGEOLOGIC ANALYSIS

CLIMATE

The site occurs in the rain shadow of the Olympic Mountains, although the rain shadow effect is smaller near the site than further to the north and northwest. The climate is northwest marine; where winter months are typically moderate and wet, while summer months are typically mild and dry. Over 55 inches of precipitation fall in Quilcene, about 11 miles north of the site. Most of the precipitation events in the site area are generated from southerly storms that move north up the canal. Precipitation data are also available from Madrona Ridge, which is on the West side of Hwy.101 across from Pleasant Harbor. The data are collected by Mr. Bruce Klanke, who was trained by and uses an automated weather station approved by NOAA. His data are transmitted to Mesowest and are available at their website under location AS461. Comparison of data from the two locations shows slightly more precipitation at Madrona Ridge (59 vs. 55 in/yr over the period 1992 through 2008), with very similar seasonal variation (PGG, 2009). Over a period from 1948 through 2005, average annual precipitation at Quilcene gage "2 SW" (456846) was 55.4 in/yr, with average temperatures ranging from a 60.7 ^{o}F high to a 39.7 ^{o}F low (http://www.wrcc.dri.edu/cgi-bin/cliMAIN.pl?waquic).

For estimating precipitation recharge to the Black Point Peninsula, PGG used Quilcene precipitation and temperature data for the period of 1948 to 2005.

GEOLOGIC SETTING

The project site lies on the boundary of the physiographic province of the Olympic Mountains and the Puget Sound Lowland.

The geology of the Peninsula has been mapped by Dragovich et al. (2002) and Carson (1976), with some additional mapping by Subsurface Group (2008) on the Statesman property. Surficial geologic mapping in the site vicinity shows exposures of recent beach deposits, Vashon age glacial sediments, pre-Vashon non-glacial sediments, and older bedrock.

Multiple glaciations have occurred in the project vicinity during Pleistocene times (10,000 to 200,000 years ago). These glaciations, and intervening non-glacial periods, have deposited sediments in the project area that reflect a complex history of deposition and erosion. Wells and outcrops on the Black Point Peninsula show that the bedrock is overlain by both glacial sediments from the most recent glaciation (Vashon Stade of the Fraser Glaciation, which occupied the area about 19,000 to 13,000 years ago) and older non-glacial sediments. In some places, the Vashon glaciation is interpreted to have eroded away substantial thicknesses of pre-Vashon sediments; whereas in other areas the pre-Vashon non-glacial sediments are observed closer to the land surface. The Vashon glacial deposits are interpreted to be thickest in the western and central portions of the peninsula; whereas in more eastern portions of the peninsula the older non-glacial sediments escaped deep erosion, and are observed cropping out on the south-central and south-east beach bluffs.

Vashon glacial sediments include a sequence (from bottom to top) of advance outwash, glacial till, and spotty occurrences of recessional and ice-contact outwash. As the glacial ice known as the Puget Lobe advanced into the project area, meltwater streams began depositing advance outwash deposits. Coarser sediments (e.g. sands

and gravels) were deposited in fluvial (stream) environments, whereas finer sediments (e.g. silts and silty sands) were deposited in glacio-lacustrine (lake) environments created when portions of the Puget lobe blocked drainage of the meltwater streams. As the Puget Lobe advanced into site vicinity, advance outwash deposits were overrun by the glacier and a dense mixture of silts, sands, gravel, cobbles and boulders known as Vashon glacial till was deposited under the advancing glacial ice. As the glacier retreated, the project site experienced active ice margin deposition and later ice stagnation. Glacial Lake Leland began draining and releasing large volumes of water that flowed through the area, eroding advance outwash and till in some areas and depositing recessional outwash in others. Large stagnant blocks of ice eventually melted and produced deep localized depressions known as kettles. Surficial geology on the Black Point Peninsula is dominated by exposures of glacial till, ice-contact deposits and recessional outwash.

Older Pre-Vashon non-glacial deposits are interpreted as part of the Whidbey Formation. They are composed of very dense stratified fine to coarse sand interbedded with gravelly sand with occasional 2 to 6-inch thick clayey silty beds. The sands and gravels are fluvially deposited with a source area in the Olympic Mountain foothills to the west.

The bedrock unit of the Peninsula is known as the Crescent Formation (basalt), located on the surface along its northern and east-central portions. The bedrock is exposed on the northeast corner and the eastern-central portions of the Black Point Peninsula and in the foothills northwest and southwest of the peninsula; bedrock is also known to be close to land surface in locations immediately west of the peninsula. However, it is not certain how deep the Crescent Formation extends below the surface, in the southern portion of the Peninsula. Wells have only penetrated the Crescent Formation on west of Highway 101 and indicate a separate aquifer that is disconnected from the Sea Level aquifer. The bedrock surface in the project vicinity has been shaped by former glacial episodes and by the Duckabush and Dosewallips rivers. On the Black Point Peninsula, an erosional valley formed during prior glaciations is interpreted to trend north-south through the western and central portions of the peninsula, and has been filled in by both glacial and non-glacial sediments.

GROUNDWATER OCCURRENCE

Groundwater in the vicinity of the Black Point Peninsula occurs in the Vashon advance outwash deposits, the pre-Vashon non-glacial deposits and (to a limited extent) in bedrock. Because the Vashon and pre-Vashon deposits have no intervening low-permeability aquitard, these two units form a single aquifer where both are present below the regional water table. For the purpose of this report, saturated conditions within either or both of these units is referred to as the "sea level aquifer". The sea-level aquifer is can be moderately productive, and is capable of providing several hundred gallons per minute to properly constructed wells. In contrast, bedrock produces low quantities of groundwater from fractures, and therefore constitutes a minor aquifer in the study area.

PGG estimated precipitation recharge to the Black Point Peninsula based on precipitation and temperature data from Quilcene gage "2 SW" (456846) over the period from 1948 through 2005 and the observation that most precipitation infiltrates into surficial soils without significant runoff (Subsurface Group, 2008). Using a proprietary version of the USGS "Deep Percolation Model", PGG estimated that out of an average precipitation of 55.4 in/yr, associated recharge is on the order of 37.7 in/yr with losses to evapotranspiration of about 17.7 in/yr (PGG, 2009). Potential evapotranspiration was estimated to be 26.9 in/yr. In addition to recharge from precipitation, the peninsula receives recharge from the foothills to the west, likely as a combination of subsurface groundwater flow ("subflow") and surface runoff.

PGG performed a preliminary water balance for the peninsula. Precipitation recharge is estimated to be approximately 2,230 af/yr over the entire 710-acre peninsula and 785 af/yr over the 250-acre project site based on a recharge rate of 37.7 in/yr. In developing the analytic element groundwater flow model, PGG produced one interpretation where recharge inflow (subflow) from the western foothills was estimated to be on the order of 100 af/yr, although other interpretations could also be developed. Out of a total groundwater inflow of 2,330 af/yr, current groundwater withdrawals are estimated to be on the order of 47 af/yr (about 2 percent of total recharge). This rough estimate is based on an assumed 300 gpd water use at 140 residences (the Pleasant Tides Water Coop system serves a total of 103 hookups, the Black Point Commercial Power water system serves 6 hookups, and about 30 well-log locations are contained in Ecology's online well log database). Given that existing residences predominantly employ septic systems, at least half that groundwater withdrawal is re-introduced to the groundwater flow system as septic effluent. **On a net basis, about 99 percent of the recharge to the peninsula is currently unconsumed by pumping.** Most of that recharge is expected to discharge to marine water, although a small portion may discharge to various minor surface-water features.

POTENTIAL IMPACTS TO EXISTING GROUND AND SURFACE WATER RIGHTS

The collection of surface water, storage in Kettle B, and ultimate use for irrigation is unlikely to have any significant effects to existing ground water rights on the peninsula and there are no surface rights present.

PGG estimated 785 af/yr pre-development recharge on the project site and 2,230 af/yr over the entire peninsula. If 10 percent of the project site were to be covered by impervious area, overall water availability would increase by about 37 af/yr due to reduced plant ET on the impervious areas. Given that 133 af/yr could be used for irrigation, the net reduction in water availability of 96 af/yr would occur, expressed as reduced recharge distributed throughout developed portions of the site (about 3 percent of total recharge to the peninsula).

Reduced recharge is similar to a groundwater withdrawal in that groundwater levels and fluxes will decrease in response; however, the impact of reduced recharge will be less localized and more spatially diffuse. PGG estimated the impacts of withdrawing 254 af/yr from several groundwater wells at the American Campground site in the groundwater ROE (G2-30436) and found that interference drawdown in surrounding wells will be acceptably small. Groundwater declines associated with obtaining irrigation water from 96 af/year reduced recharge rather than a 133 ac/year pumping withdrawal would be even smaller, and therefore should not impair existing water rights.

Similarly, Ecology found that the risk of saltwater intrusion associated with the proposed groundwater withdrawal is reasonably small, and will be addressed through a monitoring plan and good neighbors agreement. The risk of saltwater intrusion is significantly reduced by employing a diffuse reduction in recharge in place of a localized pumping withdrawal from wells. Therefore, the use of this surface water diversion in place of a portion of the associated groundwater appropriation (G2-30436) will reduce the overall risk of saltwater intrusion associated with the combined water rights.

CONSISTENCY WITH WATERSHED PLANNING

In 1998, the Washington State Legislature passed the Watershed Management Act, codified in the Revised Code of Washington RCW 90.82. This law focuses on addressing water quantity, water quality, fish habitat, and instream flow at the local level. In the Skokomish-Dosewallips watershed (WRIA 16), the Planning Unit consists of Mason and Jefferson counties, the Skokomish Tribe, the Port of Hoodsport, Mason County Public Utility District #1, local community groups, citizen representatives, and other environmental, development, and recreation interests.

The WRIA 16 Planning Unit has been working together on watershed planning since 1999. The WRIA 16 Planning Unit (also known as the Skokomish-Dosewallips Water Resource Inventory Area) prepared a watershed plan for the area which was adopted by the Boards of County Commissioners in both Jefferson and Mason Counties. The plan includes numerous recommendations to protect and enhance the water quality, water resources and habitat throughout the watershed.

While the group has opted not to recommend any specific flows for the watershed and has directed Ecology to work directly with the Skokomish Tribe to formally establish instream flows, there are recommendation in the plan related to this project, specifically:

- Develop a golf course management plan that addresses both water conservation and use of pesticides and fertilizers (see plan recommendation 3.2.4).
- Conduct comprehensive water quality monitoring at the site.
- In partnership with a recognized land trust, permanently protect the shoreline buffer area with a conservation easement to ensure that no structures are developed there and that native vegetation is maximized and retained.
- Evaluate and address the indirect and cumulative impacts of this development on the Duckabush and Dosewallips River watersheds, including indirect and cumulative impacts to habitat for listed species and to health of Hood Canal.

The project proponents are aware of the goals of the watershed plan, and have expressed intent to develop this project accordingly. Other components of the plan that are also addressed the watershed plan include:

- Exploring water reclamation from wastewater treatment plants. Water from wastewater treatment plants can be treated to such a high level that it can be reused safely for non-drinking purposes such as irrigation, streamflow augmentation, or aquifer recharge. Statesmen intends for a much of the non-potable water needs as possible to met from reclaimed water.

- Enact low-impact development requirements to minimize impervious surface and maximize onsite management of storm water, Low Impact Development (LID) is an innovative approach to storm water management that strives to manage storm water on-site rather than convey and manage it through large, costly infrastructure investments. The proposed project is designed to maximize storm water recharge, as well as control runoff from the site.

CONSIDERATION OF PROTESTANT'S CONCERNS:

A protest letter received from Mr. Gary Steele on behalf of the Brinnon Group, (Brinnon) raised several issues regarding this project that we have evaluated.

1. **The applications filed by the applicant were incomplete because the locations of facilities were not specified.**

   PGG notes that these applications were accepted as complete by the Department of Ecology. As required by statute they included information regarding the rate of withdrawal and proposed locations of the production wells and diversions points defined by quarter/quarter section. The applications were supplemented by other planning documents specifically the "Water Management Plan" which is included in the references.

2. **The project has not been sufficiently well defined and that it is difficult to assess future water demand. The Protestants note discrepancies in the detail of the project between the various planning documents.**

   PGG agrees that this is a large complicated project and that numerous planning documents have been prepared over the lengthy planning process. While there is some variation in certain figures, the breakdown of the project's various component (potable, non-potable) and the source of that water (groundwater, rain capture, reclaimed water) to be generally consistent. Given the lead time needed to secure a water right it is not uncommon for the details of projects to change slightly so long as the original intent remains consistent.

3. **That some of the existing water rights characterized as available for the Resort are not valid in the full certificated amount and should not be considered for additional development. The Protestants also note that actual water use on the peninsula has not been adequately assessed.**

   PGG concur with the protestant's comment that not all of the water characterized as available is necessarily in good standing and we have factored that into the overall water budget for this project, as discussed in the section of this ROE entitled Other Water Rights Appurtenant to the Project. Given that water use records are not available for the American Campground well, and that use today is very modest the applicant has requested that this right not be considered as an available source of supply.

4. **That there are uncertainties in the hydrogeological assessment conducted for the project and issue of adequate water availability is unresolved.**

   Prior to the issuance of a water right permit Ecology must be able to make a finding that water is available without impairment to neighboring water users or the surrounding environment. As detailed in this ROE, rain and storm water is available for appropriation without adverse impacts to other water users

5. **That no analysis of the potential impacts to existing water rights has been done, and that sea water intrusion could occur as a result of this project.**

   This ROE addresses both the risk to surrounding water users as well as the potential for seawater intrusion.

FINDINGS

Under the provisions of RCW 90.03.290, a water right shall be issued upon findings that water is available for appropriation for a beneficial use and that the appropriation thereof, as proposed in the application, will not impair existing rights or be detrimental to the public welfare. Under state law the following four criteria must be met for a permit to be approved:

- Water must be available
- There must be no impairment of existing rights
- The water use must be beneficial
- The water use must not be detrimental to the public interest

Water Availability

Water collected from rooftops and other impervious surfaces is available for appropriation. The quantity of water allocated reflects the amount needed to meet the needs of the applicant's intended use, and is limited by storage capacity. Water is therefore judged to be available for appropriation under existing Ecology regulations.

Impairment of Existing Rights

The approval of this application will not impair existing rights. The storage and use of collected rainwater will not impair existing rights.

Beneficial Use

While the applicant requested a permit for municipal supply the sole use of stored storm water is proposed for irrigation, and not potable supply. Accordingly the purpose of use of this recommendation will be designated as irrigation. Irrigation is a beneficial use of water.

Public Interest

Under the provisions of RCW 90.03, the State of Washington promotes the use of public waters in a manner that provides maximum net benefits arising from both diversionary and uses and retention of waters within lakes, rivers and streams. Under RCW 90.54.010(a), it is recognized that water resources need to be utilized to meet the needs of public health and to ensure the economic well-being of the State. At the same time, in-stream resources and values must be preserved and protected for future generations. No detriment to the public interest was identified during the investigation of the subject application.

RECOMMENDATIONS

Under the provisions of RCW 90.03.290, a water right shall be issued upon findings that water is available for appropriation for a beneficial use and that the appropriation, as proposed in the application, will not impair existing rights or be detrimental to the public welfare.

I recommend approval of this application and issuance of a permit authorizing withdrawal of 300 gpm (0.67 cfs), and 133 acre-feet per year from stored water collected within Kettle B for irrigation. The period of use shall be from April 15th to September 30th each year.

Reviewed by: Phil Crane 6/15/2010

Phil Crane
Water Resources Program

Date

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